

REMARKS

Claims 1-14 are pending in the application. The Examiner has rejected claims 1-14.

Applicant submits that the modifications to claims 1 and 8 are supported at least at page 24, line 25 to page 25, line 2 of the Specification.

1. Formalities

Applicant thanks the Examiner for acknowledging the claim for foreign priority and for confirming receipt of the priority document.

Applicant thanks the Examiner for initialing the references listed on form PTO 1449 submitted with the Information Disclosure Statement filed on February 1, 2002.

2. Claim Rejections Under 35 U.S.C. § 102

The Examiner has rejected claims 1, 2, 4, 5/1, 5/2, 5/4, 6/1, 6/2, 6/4, 8, 9, 11, 12/8, 12/9, 12/11, 13/8, 13/9 and 13/11¹ under 35 U.S.C. § 102(b) as being anticipated by Kano et al. (US 5,359,513) ["Kano"]. For at least the following reasons, Applicant traverses the rejection.

Claim 8 recites an apparatus for detecting suspected anomalous shadows that comprises "an image processing means for obtaining a processed difference image by subjecting said difference image to an image process wherein an actual difference between the two images on which said difference image is based is enhanced relative to artifacts appearing due to misalignment of a position of a structural element." The Examiner contends that the curve fitting

¹ Applicant notes that he Examiner forgot to include 5/1, 6/1, 12/8 and 13/8 in the Office Action.

technique disclosed in col. 10, lines 1-2, and the Post-Processing Techniques (col. 14, lines 3-14) of Kano disclose the claimed image processing means.

Contrary to the Examiner's contentions, Applicant submits that Kano does not disclose the claimed image processing means. The Examiner has mischaracterized the teachings of Kano. Kano relates to a method of determining changes between a pair of images (col. 1, lines 16-18). Kano discloses that images are registered by use of regions of interest (ROI). Then, local matching technique is performed by using corresponding pairs of ROIs in each image, and mapped shift values are obtained for the corresponding pair of ROIs (col. 5, lines 5-12). Because poor matching in low density regions can occur in one or both images, Kano teaches applying a curve fitting technique to the shift values (col. 9, line 53, to col. 10, line 2). Then, non-linear warping is done on one of the images based on the curve fitting analysis (col. 5, lines 14-16). Finally, the warped and unwarped images are subtracted and the subtraction image is displayed (col. 5, lines 16-19).

Because Kano, at most, discloses that the curve fitting technique is processed on the original images, Applicant submits that the Examiner's reliance on the curve fitting technique for teaching the claimed image processing means is misplaced since Kano does not disclose or suggest that the curve fitting technique be used on its subtraction image.

In addition, there is no disclosure or suggestion that the curve fitting technique enhances "an actual difference between the two images ... relative to artifacts appearing due to misalignment of a position of a structural element" as set forth in claim 8. The Examiner's reliance on Col. 14, lines 3-14, to teach the claimed enhancement is improper since there is no

disclosure or suggestion in Kano that any image enhancement that may be disclosed in this section is related to the curve fitting technique.

Further, at most, this section, Col. 14, lines 3-14, discloses that edge enhancement may be performed, but Kano does not disclose or suggest that “an actual difference between the two images ...relative to artifacts appearing due to misalignment of a position of a structural element” is enhanced as set forth in claim 8. (emphasis added). The Examiner’s contention that image enhancement would enhance the difference relative to the artifacts is not supported since it is possible, and probable, that both artifacts and the actual difference are enhanced.

For example, Doi *et al.* in col. 2, line 64 to col. 2, line 9, discloses that an image enhancement technique that increases the sensitivity of the detection process for nodules is important in order to reduce the number of false negatives, but Doi *et al.* also discloses that the image enhancement can lead to the detection of an increased number of false positives due to artifacts. Thus, it is not inherent that image enhancement would necessarily enhance the difference relative artifacts.

Because claim 1 recites features similar to those given above with respect to claim 8, Applicant submits that claim 1 is patentable for at least reasons similar to those given above with respect to claim 8.

Applicant submits that the remaining claims are patentable at least by virtue of their respective dependencies.

3. Claim Rejections Under 35 U.S.C. §103

The Examiner has rejected claims 3, 5/3, 6/3, 10, 12/10 and 13/10² under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Yamada (US 5,937,111) [“Yamada”]. For at least the following reason, Applicant traverses the rejection.

Because Yamada does not cure the deficient teachings of Kano with respect to claims 1 and 8, Applicant submits that these claims are patentable at least by virtue of their respective dependencies.

The Examiner has rejected claims 7/1, 7/2, 7/4, 14/1, 14/9 and 14/11³ under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Doi et al. (US 5,289,374) [“Doi”]. For at least the following reason, Applicant traverses the rejection.

Because Doi does not cure the deficient teachings of Kano with respect to claims 1 and 8, Applicant submits that these claims are patentable at least by virtue of their respective dependencies.

The Examiner has rejected claims 7/3 and 14/10 under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Yamada and Doi. For at least the following reason, Applicant traverses the rejection.

² Applicant notes that the Examiner incorrectly included 7/3 and 14/10 under this §103 rejection in the Office Action.

³ Applicant notes that the Examiner forgot to include 7/1 and 14/1 in the Office Action.

Because Yamada and Doi do not cure the cure the deficient teachings of Kano with respect to claims 1 and 8, Applicant submits that these claims are patentable at least by virtue of their respective dependencies.

4. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

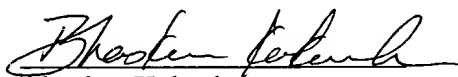
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